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Section I

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IN THIS ISSUE

Accounting as Applied to the Baking Industry, by John E. Urich..... 1117

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EDITORIAL DEPARTMENT NOTE

One feature of the baking industry—at least that portion of the industry producing fresh bread, rolls, and pastries—which immediately catches the attention of the accountant is the rapid turnover of finished products. Ideally, a baking plant should have a daily turnover, i. e., all the goods produced during a day should be disposed of during the following day. Under such conditions merchandise control and the forecasting of daily sales requirements take on additional importance in the accounting set-up. To meet sales demands without incurring large losses from spoilage, requires a nicety of planning and internal check not found in most industries. Next in importance to production and inventory control are the problems connected with selling and delivery expense. Here, also, rather detailed records are necessary in order to properly control distribution costs which account for a considerable portion of the total cost to produce and sell. These two features of accounting for bakeries as well as other aspects of bakery accounting are considered rather fully in the present article.

The author of this article, John E. Urich of Reading, Pa., was recently appointed Controller of the Pennsylvania State Liquor Control Board. Mr. Urich received his academic training at Albright and Ursinus Colleges and his accounting training at the Wharton School of Finance and Commerce of the University of Pennsylvania. His accounting experience includes: six years as Cost Accountant for the Reading Manufacturing Company; one and a half years as Special Accountant with the Parish Manufacturing Company; one and a half years as Controller of the Martin Parry Corp., three years as Sales Representative of the International Business Machines Corp., two years as Staff Accountant with the Armstrong Cork Company, assigned to the design and installation of a complete accounting system, and two and a half years of public practice on his own account. During the period Mr. Urich has been active as a teacher of accounting, having organized and founded the Y. M. C. A. School of Accounting at York, Pa. He is a past president of our Reading Chapter.

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NATIONAL ASSOCIATION OF
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JUNE 15, 1935

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ACCOUNTING AS APPLIED TO THE BAKING INDUSTRY

By John E. Urich, Reading, Pa.,
Controller, Pennsylvania State Liquor Control Board

THE baking business lends itself to control more readily than most businesses with which it has been my privilege to come in contact. The proper accounting set-up will under any conditions, enable the management to operate a given enterprise with a minimum of loss if not at a profit. As is the case in any business, control is the keynote of success.

The points involved in the successful operation of a baking business may be stated as follows:

1. Knowledge of the market served.
2. Knowledge of sources and prices of materials.
3. Quality and freshness of product.
4. Efficient and economic production.
5. Selling methods and supervision.
6. Proper and detailed accounting.
7. Proper amount of capital employed.
8. Management.

Following through on the thought of control, I think everyone will agree that it is impossible to control every phase of business activity. It becomes, therefore, a problem of controlling those factors which may be controlled and which are most important, and of measuring the effect of the non-controllable factors.

The basis for control is, of course, knowledge, i.e., information. The value of information depends upon its accuracy and availability. The first step is the determination of the factors concerning which information is required and the setting up of statements that will properly exhibit this information. The next step is to provide a system of gathering and recording information, which will permit the preparation of regular and special statements readily when and as required. Flexibility should be one of the chief objectives of a system of gathering accounting information. The accounting system must permit the preparation of daily, weekly, and monthly statements accurately and when required. At the same time, our records must make possible without any great effort the

preparation of special statements concerning any phase of the business when required.

Control as the term is used in this article is rather comprehensive and covers not only obvious items affecting income and expense, but such items as the factors necessary to maintain the honesty of salesmen.

This discussion is based on an actual system employed by a successful baking business. The principles and methods used apply generally to the entire industry, the problem of adaptation to any one business being one of scope and detail. The system provides for the preparation of regular daily, weekly, and monthly statements and attempts to render available any special information which it is anticipated may be called for or required.

All figures shown in the various exhibits are hypothetical and are used only to show how the information is compiled.

Profit and Operating Cost Requirements and Allowances

The first step in the procedure is to determine the income and expense requirements. In arriving at these requirements, the invested capital, the market served, and past experience are considered. The profit requirements represent an amount which constitutes a fair return on the invested capital and one that warrants its investment. After the profit has been determined, it is deducted from the total expected income, thus arriving at the operating cost requirements and allowances.

Operating cost requirements and allowances are determined in two ways:

1. Retail sales value per 100 pounds of baked product.
2. As a percentage of the retail sales value of all products produced.

Production and distribution cost requirements are determined only by control accounts as follows:

	Per 100 lbs. Baked Product	Per Cent Retail Value of Sales
Production at Retail Sales Value	5.00	100.00
Wholesale Allowance	.75	15.00
Production at Actual	4.25	85.00
Loss—Overproduction, Returns Damaged, etc.	.15	3.00
Net Return from Sales	4.10	82.00
Plant Cost		
Material Cost	1.50	30.00
Production Cost	.85	17.00
Administrative Cost	.325	6.50
Total Plant Cost	2.675	53.50
Plant Profit	1.425	28.50
Delivery Cost		
Route Selling	.60	12.00
Vehicle Expense	.325	6.50
Total Delivery Cost	.925	18.50
Profit	.500	10.00

The operating cost requirements thus developed are used as a basis of comparison with actuals monthly or at such intervals as required.

The percentages of retail sales value remain fairly constant throughout the accounting year and are changed only when there is a change in invested capital or a relative change in the components of the operating cost. A change in the required or desired return on the invested capital, of course, also necessitates an adjustment. Invested capital should be carefully anticipated at the beginning of each year so that there is little necessity for change.

The operating cost allowances for the several components per hundred pounds of baked product are found by applying the percentage to the retail sales value per one hundred pounds of baked product. Obviously a rise or fall in the retail sales value per one hundred pounds of product effects a rise or fall in the operating cost allowance of the various components and in proper ratio.

It will be noted that profit and operating cost requirements are controlled by invested capital rather than capacity. There is a proper amount of invested capital for each given enterprise. Our

DAILY RECAPITULATION
SUMMARY
Day, 193
SCALING
PRICE
BREAD—ROLLS
CASH VALUE
Inventory
Production A M
Production P M
Borrowed
Purchased
Returns
TOTAL TO ACCOUNT FOR
Route No
TOTAL ROUTES
Special Delivery
W. King Rolls XX
House Sales XX
Salesmen XX
Shipping
Shipping Extra
TOTAL SALES
Sundry Disposition
Borrowed
Inventory Today
TOTAL ACCOUNTED FOR
Short
Over
Counts

EXHIBIT 1

approach is based on the thought that, should the invested capital be too high for requirements, the expected percentage of profit must necessarily be lower. The excess investment represents an over-assignment of dollars to a given task.

The production of the business in question consists of bread, rolls, buns, and cake. The same procedure is applied to all products, but two schedules are prepared, one covering bread, rolls, and buns, one covering cake. In the case of bread, rolls, and buns, values are developed per one hundred pounds of product as a whole, but in the case of cake production, values per one hundred pounds are calculated by class as well as on cake as a whole.

Accounting for Production

In accounting for production, an effort is made to account for all units produced daily. In the baking industry, production is for a given day or time. Thus Monday's P. M. production is for Tuesday's sales, and accordingly is accounted for in Tuesday's sales. All units produced for a given day are accounted for on that day. This accounting is effected through the "Daily Recapitulation Summary" (Exhibit 1).

Production is based on orders prepared by the salesmen. The orders show the units or counts and quantities of each required. They constitute the salesman's order on the bakery to bake. Salesmen's orders are summarized daily for total of each unit to be produced and are recorded on the "Bake Shop Order."

The bake shop order shows the total quantity of each kind of product to be produced and provides space for calculating the retail value of the product produced.

The bake shop order provides:

1. Basis for preparation of dough sheet.
2. Quantities and kinds of product to be baked.
3. A record of quantities and kinds of product baked.
4. A medium from which to transfer quantities and kind of products baked to the daily recapitulation summary.

After they have served their purpose in the shop, bake shop orders are forwarded to the accounting department where quantities of each kind of product produced are recorded on the daily

recapitulation summary and the total retail sales value calculated and recorded.

In addition to production, the daily recapitulation summary provides for:

Borrowed—Items applied to today's sales out of production for tomorrow.

Purchased—Items purchased for sale.

All items produced, borrowed, and purchased represent the total to be accounted for.

Production is accounted for as follows:

1. Charges to routes
2. Special deliveries
3. House sales
4. Salesmen's extras
5. Shop cripples
6. Credit for borrowed items
7. Inventory at end of day

All these items are entered in the spaces provided on the daily recapitulation summary for quantity, kind and retail sales value and summarized. "Totals Accounted for" are compared with "Totals to be Accounted for," and shortages and overages determined for retail sales value in total and for kind of product in quantity. This procedure assures an absolute accounting for all items produced daily. Shortages and overages are immediately checked and responsibility allocated and steps taken to prevent recurrence.

Charges to routes, special deliveries, salesmen's extras and house sales must be accounted for by salesmen or other responsible individuals. In return for these, the company expects cash, accounts receivable or an accounting as to returns or other allowable disposition.

In addition to enabling the determination of the total retail sales value, the total scaling weight of the product is also calculated on the daily recapitulation summary. This is done by multiplying the scaling weight of each product by the quantities produced. This figure alone may be used as a guide in measuring activity. In case of bread, 32/35 of this weight represents the weight of baked bread.

The production as shown on the daily recapitulation summary is also used in compiling the "Monthly Production Summary." This assures an absolute tie-in of daily with monthly figures, and incidentally a tie-in between statements based on the daily figures and monthly summaries.

Production and Distribution Cost

Before going into accounting for production and distribution costs, let us give some thought to the steps involved in the production of bakery products.

Taking up first bread, rolls and buns, there are two processes followed in dough making—

1. Straight-dough method
   By this method all ingredients are mixed in one operation.
2. Sponge-dough method
   Under this method a part of the flour, water and yeast are mixed into a sponge which is permitted to rise, after which it is mixed with the remainder of the ingredients into a final dough.

For our purpose we will follow the detailed operations and steps in only one of these. Selecting the straight-dough method, the following steps are involved.

1. Making of dough
   Preparing ingredients
   Sifting and blending flour
   Weighing
   Treating of water
   Preliminary mixing of yeast, dry milk, etc.
   Dough mixing
   Dough placed in trough
   Dough allowed to rise (Fermentation)
   Punching, Folding or Turning
   Dough sent to Divider or Bench
2. Dividing and Scaling
   The making of various pieces of dough for moulding into units of product

From this point the course of bread differs from that followed for rolls and buns. Rolls and buns follow steps as follows:

3. Moulding
   Forming into various shapes
4. Panning
   Placing units into pans for baking
5. Pan Proofing
   During this step the pieces are allowed to rise in pans to give them lightness
6. Baking
7. Cooling
8. Wrapping
9. Packing

and bread passes through the following steps:

3. Rounding
   By this operation each piece of dough is rounded or balled so as to put a skin around it preparatory to moulding into a loaf of bread.
4. Proofing
   During this operation rounded pieces are allowed to rest, to become softer and more susceptible to moulding.
5. Moulding
   The forming of each piece into a dough loaf.
6. Panning
   Placing dough loaves into pans.
7. Pan Proof
   During this step the pieces are allowed to rise in pans to give proper lightness.
8. Baking
9. Cooling
10. Slicing and Wrapping
11. Packing

Cake making involves a much shorter process. The various steps, although not as many, are similar to those followed in the case of bread and may be briefly stated as follows:

1. Mixing
2. Scaling and depositing
3. Baking
4. Cooling
5. Wrapping and packaging

Distribution includes the selling and distribution of the product and the maintenance of the delivery equipment.

With this brief outline and synopsis of the steps involved in the production and distribution of bakery products, let us pass to the discussion of the accounting involved.

Production and distribution costs are accounted for under the following titles which are referred to as cost components:

1. Material Cost
2. Production Cost
3. Administrative, General and Office Expense
4. Distribution Cost
   - Route selling and delivery expense
   - Vehicle expense

Costs under the various components are broken down in detailed classifications descriptive of the kind of expense or material, and costs are compiled under two divisions or departments, cake and bread. The former covering all cakes, solid cookies, and fried cakes, and the latter, bread, rolls and buns.

The unit used to measure production and cost is 100 pounds of baked product. Cost of both bread and cake is expressed per 100 pounds of baked product.

Accounting for Material

Accounting for materials in our bakery begins at the time the material is received and ends when it becomes a part of the dough. This involves not only accounting for values but quantities and weights.

Receiving is the first step in accounting for materials and brings into use the first record, the receiving report. A receiving report is required for all materials received. The proper checking of materials insures accurate accounting for losses, both avoidable and unavoidable, after storage.

A perpetual stock ledger is maintained and a strict account is kept with each item of material. The form used (Exhibit 2) pro-

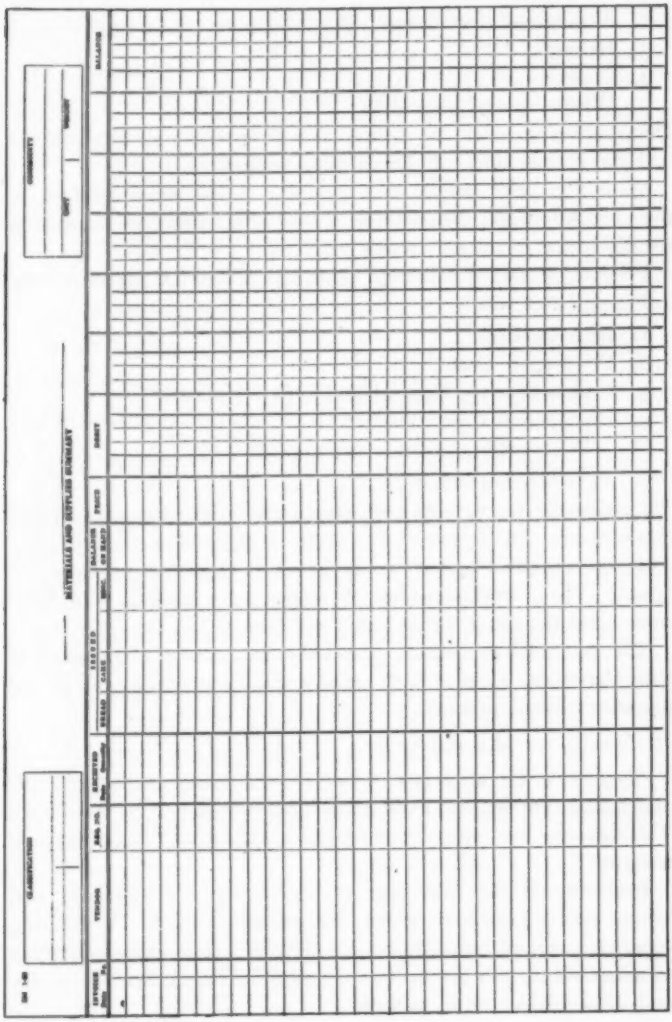

EXHIBIT 2

vides space for recordings, vendor, date received, quantity received, unit cost, cost and balance on hand in quantity and cost.

It also provides space for recording withdrawals and the disposition of such withdrawals. In other words, an examination of the stock ledger shows in addition to the above for each ingredient, what quantities were used and when and how they were used.

Materials are accounted for by ingredients and charges are made for weight and cost. Weights are charged as "formula" and "purchase." An analysis ledger is maintained in which accounts are set up for each group of ingredients. The form of the account provides space for recording and summarizing formula weights, purchase weights and cost.

Formula weights are charged from a summary of the "Bread Formula Sheets" (Exhibits 3A & B). These formula sheets are prepared from the bake shop orders and show the various doughs to be made and weights of the ingredients to be used. The columns provided on the sheet are totaled daily for use in the preparation of a daily manager's report and are summarized monthly for posting to the analysis ledger. Purchase weights and costs are posted to the analysis ledger from the material stock ledger.

The accounts used to record weights and cost of the various ingredients used, form the basis for the preparation of the "Material Cost Summary." Exhibit 4 illustrates the material cost summary as applied to the bread department. The material cost summary shows the weights and costs for the various ingredients and also furnishes the information for the determination of:

Weight of bread produced.
Total barrels of flour used.
Average yield per bbl. of flour.
Average cost per bbl. of flour used.
Loss or gain in scaling.
Invisible loss.
Percentage loss during fermentation.
Percentage absorption.
Percentage pan grease used.
Percentage dusting flour used.
Cost per hundred pounds of bread baked—Total.
Cost per 100 pounds of bread baked by ingredients.

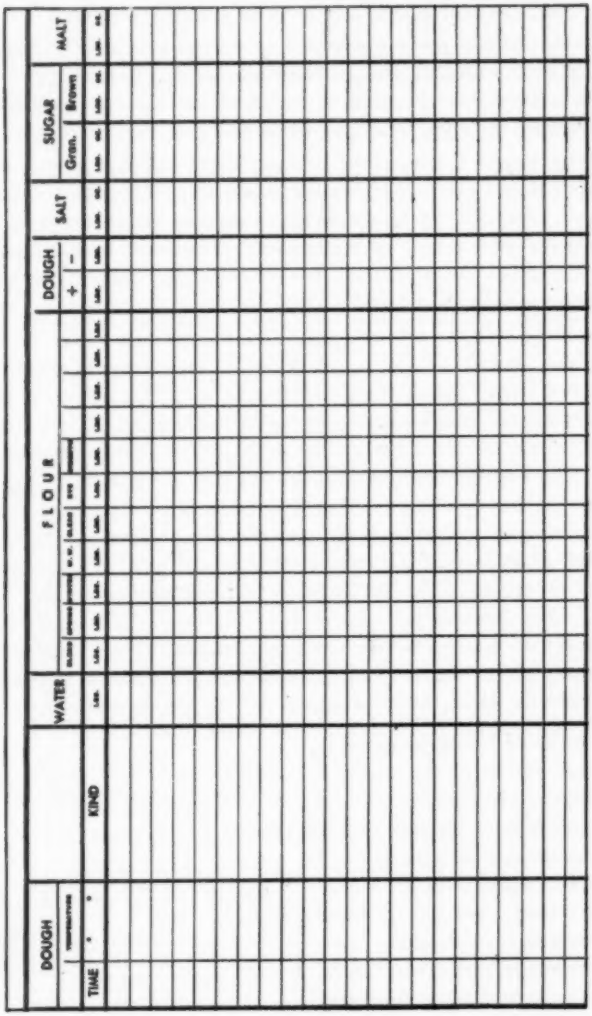
DOUGH
TIME
TEMPERATURE
WATER
FLOUR
KIND
DOUGH
+
-
SALT
SUGAR
Gran.
Brown
MALT

EXHIBIT 3A

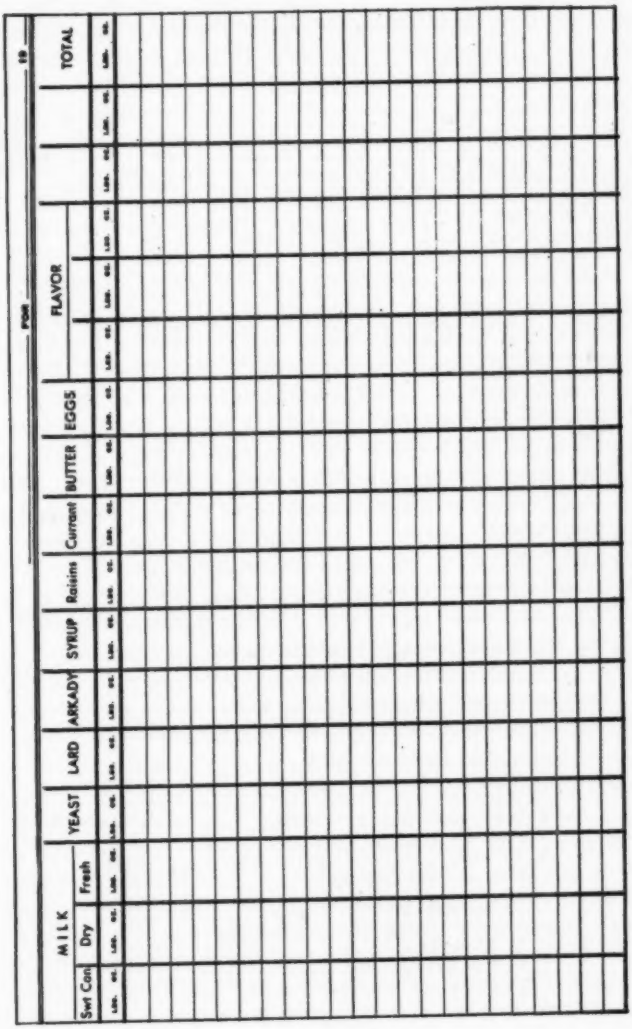
POS
19
MILK
Swt Con
Dry
Fresh
YEAST
LARD
ARKADY
SYRUP
Raisins
Currant
BUTTER
EGGS
FLAVOR
TOTAL

EXHIBIT 3B

MATERIAL COST SUMMARY
BREAD DEPARTMENT

(This exhibit illustrative only and entirely hypothetical)

	Formula Weights	*Purchase Weights*	*Cost Total*	*Actual Cost 100# Bread*	*Cost 100# Bread Required*
101 Wheat Flour	202,861	206,712	$5,339.96	$1.4918	
102 Rye Flour	7,028	7,135	247.49	.....	....
103 W. W. Flour	6,826	7,056	217.56	.....	....
104 Dusting Flour	4,667	4,667	116.02	.....	....
Other Flour	18,521	18,858	581.07	.....	....
Total Flour	221,382	225,570	5,921.03	1.6541	....
107 Sugar Syrup	6,841	6,777	320.36	.0894	....
108 Malt	1,916	1,918	115.93	.0324	....
109 Shortening	8,420	8,650	716.33	.2001	....
110 Powdered Milk	1,710	1,760	122.81	.0343	....
111 Condensed Milk	13,628	14,281	649.00	.1813	....
112 Liquid Milk	....	....	.....	.....	....
113 Yeast	4,724	4,736	805.07	.2249	....
114 Yeast Food	783	577	35.79	.01	....
115 Salt	3,901	4,331	50.35	.0141	....
116 Pan and Divider Oil and Grease	313	313	21.23	.0059	....
117 Trough Grease	120	120	9.60	.0027	....
118 Fnishing Materials	3,197	3,197	205.85	.0575	....
119 Other Ingredients	1,508	1,333	81.08	.0227	....
120 Absorption Boosters	917	678	86.23	.0241	....
	269,360	274,241	$9,140.66	$2.5536	$2.50

A Total Weight of Materials	269,360
B Less Dusting Flour, etc	8,177
C Weight of Materials put in Mixer	261,183
D Weight of Water put in Mixer	131,439
E Weight of Water and Material	392,622
F Weight of Dough Produced	391,503
G Weight of Bread Produced	357,944
I Total Bbls. of Flour Used	1150.9
J Average Yield per Bbl	311.01
K Average Cost W Flour per Bbl	5.0634
Loss or Gain Scaling	
% Invisible Material Loss	1.77
% Loss During Fermentation	.285
% Absorption	60.65
% Pan Grease Used	.1162
% Dusting Flour Used	1.7326

EXHIBIT 4

The weight of bread produced is based on the weight of the dough produced and is calculated by taking 32/35 of this weight. Baked weight is used in measuring all components of production cost.

Total number of barrels of flour used is determined by dividing 196 pounds into the total purchase weight of flour used. This is an important factor and may be used as an index of production activity if the number of barrels required to operate on a paying basis is known. Some bakeries measure sales income and profits by barrels of flour.

The yield per barrel of flour is another important factor in the baking industry. The development of this factor is effected by dividing the number of barrels of flour used at purchase weights into the total number of pounds of bread produced. Here again, it is possible to check against a required or standard yield, thus providing another point for checking leaks and for control.

Average cost per barrel of flour is determined by dividing the total cost by the total number of barrels of flour used. This factor gives an excellent opportunity for check on proper blends from a standpoint of cost requirements.

Loss or gain in scaling represents the difference between the weight of dough delivered to the divider or bench and the scaling weight of all units produced. The scaling weight for each piece of dough is predetermined. This weight is the weight at which the unit cost of bread is figured and represents the amount of weight which may be given for a given price. Any deviation from this predetermined weight will affect the profit either for better or worse. It is, therefore, important that the performance be measured at this point. A margin of deviation is established and the bread department is required to operate within this.

The difference between the formula weights and the purchase weights represents what we call invisible loss. This loss is made up of loss in weight of flour and other materials during storage and loss due to careless handling and scaling of materials. It represents the difference between the actual and the formula or calculated weight of material entering into the doughs produced. We have an allowable percentage on this loss and whenever the loss exceeds this, the dough room foreman is brought to task and the inefficiency remedied.

Fermentation loss is shown by the difference between the material and water put into the mixer, which should be the weight of the dough put into the trough and placed in the fermentation room, and the weight of the dough delivered after fermentation to either the divider or bench. Referring to Exhibit 4, it represents the difference between items E and F. The percent of fermentation loss is found by dividing the fermentation loss in pounds by the weight of dough placed in the trough for fermentation. An allowable per cent of loss is set up and the actual is checked with this monthly for control.

Over and underscaling in the dough room have a bearing on this factor and must be taken into consideration when calculating fermentation loss.

Fermentation or evaporation loss is controlled through conditioned rooms where temperature and humidity are maintained so as to insure a minimum loss. Other points and factors such as punching, turning and folding also have a bearing on fermentation and these are also given attention.

Absorption is the term applied to the amount of water or liquid absorbed per 100 pounds of flour. It is expressed as a percentage of the actual amount of flour put into the mixer or mixers. There is a standard and proper percentage of absorption. Moreover, this factor is a great bearing on the cost, and it is essential that performance be as close as possible to what is right and standard. This is just another factor in measuring performance.

Pan grease and dusting flour are terms which are self-explanatory. As is the case in the other factors just discussed, these ingredients must not exceed a certain percentage of the total materials used. Therefore, we develop this percentage and compare with what is required or considered allowable.

All factors just discussed are determined monthly, and such as are deemed necessary to proper control, are determined daily. Monthly compilations are made from the same sources used in determining what may be termed daily indicators and an absolute tie-in of daily with monthly statements is assured.

The "Daily Managers Report," shown as Exhibit 5, shows some of these factors as well as information concerning sales and such other matters as are considered of value.

DAILY MANAGER'S REPORT ..... DAY ..... DATE	BREAD	CAKE
Inventory		
Salesmen		
Bakery		
Production		
A. M.		
P. M.		
Purchased		
TOTAL TO ACCOUNT FOR		
Sales — Routes, Etc.		
Sales — Shipping		
Sales — Stale, Store		
EXCESS OVER SALES		
Inventory		
Salesmen		
Bakery		
Wholesale Allowance		
SHOP LOSSES — CRIPPLES		
Burned		
TOTAL EXCESS ACCOUNTED FOR		
*Value unaccounted for		
Cumulative Total		
Over		
Short		
Evaporation		
Weight of dough ready for divider		
Mixer weights		
Formula weights		
Overscaling in mixing room		
Underscaling in mixing room		
Absorption		
Loss from overscaling		
Gain from underscaling		

EXHIBIT 5

Throughout the entire process of material handling, materials or their compounds are weighed and counted. This is particularly true at those points where ingredients are added or where chemical changes take place and where there is consequently a chance for loss or deviation from requirements.

The mechanism of figure gathering and collecting is so set up as to permit the presentation of as much detail or as little as may be desired.

This discussion has covered the bread department only. The same principles, except in detail, apply to the handling of materials in connection with cake production. There is, for example, no fermentation. All factors pertaining to the action of yeast, therefore, receive no attention.

Production Costs

This component covers the cost of producing bread and involves all cost incurred from the receipt of materials to the wrapping of the final product. Separate accounts are set up in the analysis ledger for each classification of expense shown on the "Production Cost Summary" (Exhibit 6).

All items of cost, wherever possible, are charged directly and those items not directly applicable are allocated on proper basis. The ledger forms are columnar and provide space for analysis wherever this is anticipated.

The Production Cost Summary shows:

Actual Cost—Total
  By Classification
  Total Production
  Total Wrapping and Production
Actual Cost—Per 100# Bread
  By Classification
  Total Production
  Total Wrapping and Production
Required Cost—Per 100# Bread
  By Classification
  Total Production
  Total Wrapping and Production
Percentage Production Wrapped
Percentage Production Sliced

PRODUCTION COST SUMMARY
BREAD DEPARTMENT

(This Exhibit illustrative only and entirely hypothetical)

	Actual Cost Total	*Actual Cost 100# Bread*	*Cost 100# Bread Required*
Wrapping Wages	$ 257.47	$ .0771	$ .065
Wrapping Supplies	747.45	.2237	.21
Wrapping Total	$1,006.92	$ .3008	$ .275
Wages—Supts., Foremen	627.72	.1754	.1475
Direct Shop Labor	1,729.83	.4833	.42
Wages—Misc. Help	205.93	.0575	.05
Wages—Firemen	113.11	.0316	.025
Wages—Janitor	264.05	.0737	.050
Shop Labor—Total	$2,940.64	$ .8215	$ .6925
Janitors' Supplies and Exp.	17.25	.0048	.005
Steam Fuel	66.75	.0186	.035
Oven Fuel	152.43	.0426	.0425
Light and Power	247.12	.069	.055
Ice, Ref. and Water	157.58	.044	.035
Shop Sup. and Misc Exp.	34.81	.0097	.015
Bldg. Repairs	16.28	.0045	.025
Machy. Repairs	6.09	.0017	.035
Oven Repairs	4.26	.0012	.005
General Repairs	60.41	.0169	.0125
Depr. of Bldgs.	171.70	.048	.04
Depr. of Pans	45.67	.0128	.015
Depr. of Ovens	313.92	.0877	.035
Depr. of Machy.	460.88	.1288	.12
Depr. of Fac. Fur. and Eq.	8.15	.0023	.002
Fire Insurance	14.12	.0039	.004
Liability Insurance	32.96	.0092	.005
Total Prod. Cost	$4,749.02	$1.3267	$1.2215
Total Prod. Wrapping Cost	5,755.94	1.6081	1.50
Bread Wrapped #	334,069		
Bread Wrapped %	93.32		
Bread Sliced #	173,686		
Bread Sliced %	48.52		
Total Bread Prod. #	357,944		

EXHIBIT 6

The factors shown here permit comparison with previous periods and enable the measurement of actual with required costs. Any deviations from the required cost are immediately investigated and steps taken to correct the inefficiencies responsible. The same principles are used in both the bread and cake departments.

ADMINISTRATIVE, OFFICE AND GENERAL EXPENSE
BREAD DEPARTMENT

(This Exhibit is illustrative only and entirely hypothetical)

	Cost Total	*Cost 100# Bread*	*Cost 100# Bread Required*
Executive Salaries	$ 364.58	$ .1018	$ .10
Office Salaries	589.27	.1647	.15
Travel and Other Expense—Exec. and Off.	42.82	.0119	.001
Off. Sup., Stat'y and Printing	28.92	.0081	.002
Postage, Telephone and Telegraph.	67.37	.0188	.02
Legal, Asso. and Prof. Fees	37.63	.0105	.015
Plant Lab. Expense	20.51	.0057	.002
Sundry Expense	14.21	.004	.012
Taxes	104.86	.0294	.035
Insurance	15.02	.0042	.005
Depr. of Off. Bldg. and Fix.	42.53	.0119	.015
Repairs of Off. Bldg. and Fix.	1.44	.0004	.005
Total Applied to Production	$ 996.87	$ .2786	$ .275
Total General	332.29	.0928	.087
Total	$1,329.16	$ .3714	$ .362

EXHIBIT 7

Administrative, Office and General Expense

Separate accounts are set up for all classifications under this component in the analysis ledger. The classifications used to show the analysis of this group of expenses may be found in Exhibit 7.

It will be noted by reference to Exhibit 7 that expenses are collected by classification but are applied to cost in two parts: That which applies to production is considered a part of plant cost, while that which applies generally is not considered a part of plant nor distribution cost and is, therefore, treated separately.

The Administrative, Office and General Expense Summary, as in the case of the Production Cost Summary, shows actual costs in comparison with required costs, both in detail and in total. Any deviation from required cost are checked and causes remedied.

The principles involved apply similarly to both the bread and the cake departments.

Distribution Costs

Distribution costs have to do with the packing, selling and distribution of our products. This involves the actual selling and distribution and the maintenance and operation of the vehicles used in delivery. Exhibit 8, "Route Selling and Delivery Expense," shows the breakdown of this component.

DISTRIBUTION COST
ROUTE SELLING AND DELIVERY EXPENSE
BREAD DEPARTMENT

(This statement illustrative only and entirely hypothetical

	Actual Cost Total	*Actual Cost 100# Bread*	*Cost 100# Bread Required*
Sales Managers' Salaries	$ 393.31	$ .1105	$ .07
Sales Managers' Expense	21.45	.0060	.02
Route Captains' Salaries	314.00	.0880	.09
Route Captains' Expense			.005
Salesmen's Wages	2,725.80	.7638	.75
Advertising	404.16	.1132	.10
Discount and Allowances			.005
Bad Accounts and Col. Exp.	18.87	.005	.01
Wages—Shipping Clerks and Pkrs.	472.13	.1333	.15
Delivery Supplies			.0015
Insurance	32.44	.0009	.005
Misc. Delivery Expense	130.27	.0365	.028
Store and Markets	277.70	.0778	.09
Depr. Store Boxes, etc.			.002
Depr. Wagon Boxes,			.001
Repairs Wagons, Boxes	30.79	.0086	.002
	$4,820.92	$1.3513	$1.3295
Vehicle Expense	1,499.63	.448	.45
Selling and Delivery Expense—Total	$6,320.55	$1.7717	$1.75
% Production Delivered	99.64		
# Production Delivered	356,652		
# Production Delivered Vehicle	335,253		
# Production Store and Markets	21,399		

EXHIBIT 8

As in the case of the other cost components, separate accounts are maintained on forms which permit analysis and allocation to bread or cake, wholesale routes or retail routes, should this be required. It will be noted that the total distribution cost is also shown on this statement by adding the vehicle expense.

This summary shows costs in total and by 100 pounds of baked bread by classification and in total at actual and required or allowed. Deviations from the alloted cost are corrected. Exhibit 9 illustrates the "Vehicle Expense Summary."

DISTRIBUTION COST
VEHICLE EXPENSE

(This Exhibit is illustrative only and entirely hypothetical)

		Actual Cost		*Cost Requirements*	
	Total Cost	*Per Mile*	*Per 100# Bread*	*Per Mile*	*Per 100# Product*
Garage Wages	$ 95.32	.0037		.0035	
Gas Car Repairs	435.83	.0167		.015	
Gas and Oil	443.50	.017		.015	
Gas Car License	42.24	.0013		.002	
Tires, Tubes and Tire Sup.	145.03	.0055		.004	
Garage Sup. and Exp.	20.82	.0008		.0015	
Garage Bldg. Repairs	2.65	.0001		.0005	
Depr. on Garage	57.45	.0022		.002	
Depr. on Garage Equipment	11.77	.0005		.0005	
Depr. on Gas Cars	306.73	.0115		.015	
Insurance	68.69	.0025		.0025	
	$1,630.03	.0618		.0615	
Bread	$1,499.63		.448		.45
Cake	130.40		.80		.70
Mileage	26,141				
Mileage per Gal. Gas	8.5				
Mileage per Qt. Oil	68.				

EXHIBIT 9

Accounts are carried in the analysis ledger for each classification shown on this summary.

The method of presentation in the case of this summary is different from other summaries in that costs are shown per 100 pounds of baked bread in total only and that costs are also shown "per mile."

The actual costs per unit of measure are shown comparatively with allowable costs and every effort is made to keep actual costs in line with requirements. Distribution costs are allocated to cake and bread on bases governed by the several classes of expense.

In addition to the accounting records, a very complete system of maintenance records and reports is used. Detailed records are kept on the performance of all delivery equipment and accessories.

PROFIT AND LOSS SUMMARY
BREAD DEPARTMENT

(This exhibit is illustrative only and entirely hypothetical)

	Total		Total Damaged, etc.	Per 100# Bread Sales		Damaged, etc.
	Total	*Sales*		*Actual*	*Required*	
Production at Retail	$27,982.15	$27,866.31	$115.84	$7.8113	$8.00	
Less Wholesale Allowance	2,608.02	2,608.02		.731	.75	
Production at Actual	25,574.13	25,258.29	115.84	7.0803	7.25	
Less Damaged, etc.:						
Damaged	54.66		54.66			$ .0153
Returns and Overproduction	719.74	719.74		.2018	.175	
Donations	12.25		12.25			.0034
Samples	17.79		17.79			.005
Miscellaneous	23.38		23.38			.0087
	827.82	719.74	108.08	.2018	.175	.0325
	24,546.31	24,538.55	7.76	6.8785	7.075	
Less:						
Material Cost	9,140.66	9,107.46	33.20	2.5536	2.500	
Production Cost	5,755.94	5,735.32	20.62	1.6081	1.500	
Administrative Cost	996.87	989.95	6.92	.2786	.275	
Total Plant Cost	15,893.47	15,832.73	60.74	4.4403	4.275	
Plant Profit	8,652.84	8,705.82	*52.98**	2.4382	2.800	
Less:						
Distribution Cost, Route Selling and Delivery Expense	4,820.92	4,820.92		1.3513	1.3295	
Vehicle Expense	1,499.63	1,499.63		.448	.45	
Total	$ 6,320.55	$ 6,320.55		$1.7702	$1.75	
Profits from Sales Before Deducting General Administrative Expense	2,332.29	2,385.27	*52.98**	.668	1.05	
Less:						
General Administrative Expense	332.29					
Net Profit—Bread Sales	$ 2,000.00					

* Indicates negative figures.

EXHIBIT 10

Profit and Loss Summary

The Profit and Loss Summary shows the total net results of operations. Separate statements for the bread and cake departments and a consolidated statement for combined operations are prepared monthly. Exhibit 10 illustrates the method of preparing and presentation of the Profit and Loss Summary for the bread department.

It will be noted that the statement opens with production at retail sales value. This is in line with the thought that everything produced must be accounted for. The method is predicated on the thought that barring loss through damages, returns and allowances, a bakery should realize retail sales value on its entire production.

Total production by units or counts is arrived at by summarizing the production as shown on the daily recapitulation summary and quantities thus obtained are multiplied by the unit retail sales value and totalled.

Wholesale allowances are transferred from the monthly summary of sales, which is a summarization of the settlements made by the salesmen and reflects a complete disposition of total retail sales value of all products produced.

The item of returns and overproduction represents the loss of value through returns which had to either be converted into crumbs, sold as stales or destroyed. The amount used under this title is arrived at by deducting the amount of money realized from stale and crumb sales from "Returns" as shown on the monthly summary of sales.

The items thus far discussed are definite dispositions of retail sales value. In addition there are further dispositions as follows: damaged, donations, samples and miscellaneous. These dispositions are also evaluated and accounted for as a deduction from the total production at retail sales value. Total production less wholesale allowance, damaged, donations, samples, returns and allowances result in net sales at actual sales value against which cost of production and distribution applies.

From this point the statement is similar to any other profit and loss summary, showing comparisons with required and allowable income expense by major classifications.

The consolidated statement shows combined income and expense for the bread and cake departments together with items of financial income and expense and ratios of various items to sales.

This discussion attempts to cover only those points of accounting which are peculiar to the baking industry in the best possible way. I hope I have succeeded in painting the picture in accordance with my desires. The principles and methods followed are being successfully applied by a successful baking enterprise.

BIBLIOGRAPHY

BAKERY ACCOUNTING:

N. A. C. A. Publication:

Baking Costs. J. H. Middleton. Bulletin I, January 15, 1933.

General:

Just What Should You Expect from an Accounting System. John Thies. *Bakers* Weekly, 45 West 45th Street, New York, N. Y. February 15, 1930.

Manufacture and Distribution of Bread. C. Murray. *Journal of Accountancy,* 135 Cedar Street, New York, N. Y. March, 1935.

Paper Accounting and Cost Control for Bakeries. John C. MacAlpine. *Bakers Weekly.* July 11, 1931.

Retailer's Cake Costs. Peter G. Pirrie. *Bakers Weekly,* August 10, 1929.

You Can Make Thousands by Controlling Costs. Peter G. Pirrie. *Bakers Weekly,* April 5, 1930.

BULLETINS PUBLISHED SINCE AUGUST, 1934

The Relationship Between Your Company Sales and General Business Activity, E. B. Whittemore	September 1, 1934
Controlling Distribution Costs, Carle M. Bigelow	September 1
Management Under a Planned Economy, Paul J. Stokes	September 15
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A Financial Budget for a Shoe Mfg. Co., Harold S. Wonson	June 1
Accounting as Applied to the Baking Industry, John E. Urich	June 15

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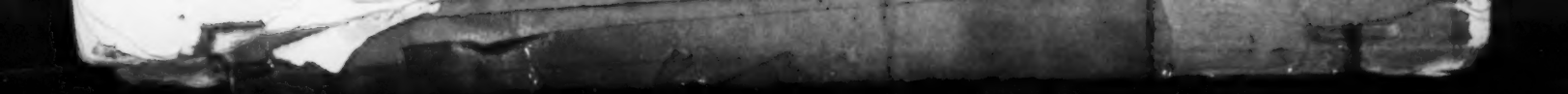
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